Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3534	438/110,113,458,459,460,462.ccls.	US-PGPUB; USPAT	OR	ON	2006/02/11 11:28
L2	3032	1 and @ad<"20040310"	US-PGPUB; USPAT	OR	ON	2006/02/11 11:35
L3	2468	2 and (trench or opening or hole or aperture or groove or via)	US-PGPUB; USPAT	OR	ON	2006/02/11 11:44
L4	204087	(cutting or separating or detaching) and (wafer or die or substrate) and (trench or opening or hole or aperture or groove or via)	US-PGPUB; USPAT	OR	ON	2006/02/11 11:34
L5	183105	4 and @ad<"20040310"	US-PGPUB; USPAT	OR	ON	2006/02/11 11:34
L6	231810	(cutting or separating or detaching) same (trench or opening or hole or aperture or groove or via)	US-PGPUB; USPAT	OR	ON	2006/02/11 11:35
L7	25533	(cutting or separating or detaching) same (trench or opening or hole or aperture or groove or via) same (wafer or substrate or die)	US-PGPUB; USPAT	OR	ON	2006/02/11 11:41
L8	23056	7 and @ad<"20040310"	US-PGPUB; USPAT	OR	ON	2006/02/11 11:37
L9	2912	8 and laser and ((bottom or rear or back) with (die or substrate or wafer))	US-PGPUB; USPAT	OR	ON	2006/02/11 11:38
L10	25690	(cutting or separating or detaching or singulating) same (trench or opening or hole or aperture or groove or via) same (wafer or substrate or die)	US-PGPUB; USPAT	OR	ON	2006/02/11 11:37
L11	23185	10 and @ad<"20040310"	US-PGPUB; USPAT	OR	ON	2006/02/11 11:45
L13	2953	11 and laser and ((bottom or rear or back) with (die or substrate or wafer))	US-PGPUB; USPAT	OR	ON	2006/02/11 11:38
L14	2036	11 and streets	US-PGPUB; USPAT	OR	ON	2006/02/11 11:40
L15	848	(akram adj salman)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/02/11 11:41

L16	40	15 and (cutting or separating or detaching) same (trench or opening or hole or aperture or groove or via) same (wafer or substrate or die)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/02/11 11:42
L17	21	16 and laser	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/02/11 11:42
L18	37	((trench or opening or hole or aperture or groove or via) and (substrate or wafer or die) and laser and (cutting or separating or removing or singulating or detaching) and streets).clm.	US-PGPUB; USPAT	OR	ON	2006/02/11 11:45
L19	25	18 and @ad<"20040310"	US-PGPUB; USPAT	OR	ON	2006/02/11 11:45

DOCUMENT-IDENTIFIER: US 20030013380 A1

TITLE: Semiconductor wafer dividing method

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Claims Text - CLTX (2):

1. A semiconductor **wafer** dividing method for dividing a semiconductor **wafer,** in which a plurality of rectangular regions are demarcated by **streets** arranged in a lattice pattern on a face of the semiconductor **wafer,** and a semiconductor circuit is disposed in each of the rectangular regions, into the individual rectangular regions, comprising: a **groove cutting** step of **cutting** the face of the semiconductor **wafer** along the **streets** to form **grooves** along the **streets** on the face of the semiconductor **wafer**; and a back grinding step of grinding a back of the semiconductor **wafer** to reduce a thickness of the semiconductor **wafer** to not more than a depth of the **grooves,** thereby dividing the semiconductor **wafer** along the **streets,** and wherein: a **groove** depth measuring step of measuring the depth of the **grooves** is incorporated before the back grinding step; and in the back grinding step, rough grinding is performed until the thickness of the semiconductor **wafer** becomes greater than the depth of the **grooves** by a predetermined value, and then precision grinding is performed until the thickness of the semiconductor **wafer** becomes not more than the depth of the **grooves**.

Claims Text - CLTX (3):

2. The semiconductor **wafer** dividing method of claim 1, wherein the **groove** depth measuring step includes measurement of a full thickness of the semiconductor **wafer** before or after the **groove cutting** step, measurement of a remaining thickness of the semiconductor **wafer at the groove** after the **groove cutting** step, and calculation of the depth of the **grooves** by subtracting the remaining thickness from the full thickness.

Claims Text - CLTX (4):

3. The semiconductor **wafer** dividing method of claim 2, wherein the measurement of the full thickness of the semiconductor **wafer** is made by back pressure measuring means.

Claims Text - CLTX (5):

4. The semiconductor **wafer** dividing method of claim 2, wherein the measurement of the remaining thickness of the semiconductor **wafer at the groove**

is made by **laser** light reflection measuring means.

Claims Text - CLTX (6):

5. The semiconductor **wafer** dividing method of claim 1, wherein a tape application step of applying a protective tape onto the face of the semiconductor **wafer** is incorporated after the **groove cutting** step and the **groove** depth measuring step.